

# **Information and Communication Technology (ICT)**

## **Status, issues and future development plans of Bangladesh**

**Dr. Md. Omar Faruque Khan**

Secretary In Charge

Ministry of Science and Information & Communication Technology

Government of People's Republic of Bangladesh.

### **1. Introduction**

Information Technologies have generated profound changes in human society. These are quite different from social transformations caused by earlier scientific advances. The invention of the telegraph in the early 19<sup>th</sup> century started the modern Information & Communication Technology (ICT). By the 21<sup>st</sup> Century we witness a dramatic new wave of ICT, leading to massive socio-economic changes.

Bangladesh has placed poverty alleviation on the top of its development agenda. It is here that ICT has a critical role to play. It is for developing countries and especially the least developed among them to seize the opportunity and adopt ICT as a priority tool to fight hunger, malnutrition, illiteracy, discrimination against women, children, aged and disabled. The need to invest in ICT infrastructure and especially ICT human resources is paramount.

The ICT sector of Bangladesh is one of the fastest growing sectors of its economy. ICT has been declared as the thrust sector by the Government. A comprehensive ICT Policy has been formulated and a National ICT Task Force, headed by the Honorable Prime Minister, has been formed. The Government organization entrusted for the development and promotion of the ICT sector is the Ministry of Science and Information & Communication Technology. Bangladesh Computer Council (BCC), the apex body for promotion of all kinds of ICT activities in the country, works under the Ministry of Science and Information & Communication Technology.

### **2. Policy Issues**

#### ***ICT Policy of Bangladesh***

For the development of ICT sector within the framework of overall national development, the Government has approved the National ICT Policy in October 2002. The Vision of this Policy aims at building an ICT-driven nation comprising of knowledge-based society by the year 2006. In view of this, a country-wide ICT-infrastructure will be developed to ensure access to information by every citizen to facilitate empowerment of people and enhance democratic values and norms for sustainable economic development by using the infrastructure for human resources development, governance, e-commerce, banking, public utility services and all sorts of on-line ICT-enabled services. A comprehensive Action Plan "Roadmap for ICT Development" and Poverty Reduction Strategic Paper (PRSP) based on the ICT Policy, 2002, Kuala Lumpur and Hyderabad declaration and the Millennium Development Goals is under preparation.

### ***Intellectual Property Rights (Copyright) Law***

To help the ICT sector flourish in the country, there is a need for an effective legal framework. Timely and suitable legal reforms can create an ICT-friendly legal environment. Such an environment will help this sector grow by attracting investment. In order to create such a legal environment, the amendment of the Copyright Act 2000 incorporating issues related to ICT is in the process of finalization. Bangladesh is presently signatory to two important international copyright agreement/convention and is presently working for upgrading the Intellectual Property Rights (IPR) Law in light of the changing needs.

### ***Law on Information Technology***

To create a smooth environment for e-Commerce and to safeguard the dealings over the net and to check the threat to computer communication, the government has drafted the ICT law and is in the process of enactment by the Parliament.

The Information Technology (Electronic Transaction) Act will provide a legal framework that recognises digital signatures and other electronic documents and have enough provisions to check cyber crimes, which are not covered by any existing law of the land. The draft has been made based on the Model Law on E-commerce framed in 1996 by the United Nations Commission on International Trade Law (UNCITRAL).

## **3. Challenges and Prospects of e-Governance**

The government is considering aggressively to move into e-governance for providing all needed information to citizens and for efficient and transparent services and to create an information environment and enhance the efficiency, effectiveness, dynamism in public agencies and to ensure their accountability. Transformation to e-Government is only possible with the right governance structure, together with the political will to drive change across the whole of government services encompassing such vital sectors as *Human Services, Justice & Public Safety, Revenue, Defense, Education, Transport & Motor Vehicles, Regulation & Democracy, Procurement and Postal*.

### ***e-Government in Bangladesh Context***

Implementation of the decision of the Honorable Prime Minister's Task Force on ICT to place all forms (required by various agencies) and recruitment notice in the web is being implemented. Some of the government agencies have already launched their websites. The official website of the Government of Bangladesh, [www.bangladeshgov.org](http://www.bangladeshgov.org), currently contains links to President's Office, Prime Minister's Office, 8 ministries and 59 agencies. Some of these contain important documents like Budget, Census Data, Customs and Income Tax regulations, etc. Almost all Ministries are currently using e-mail facilities.

Ministry of Science and Information & Communication Technology ([www.mosict.gov.bd](http://www.mosict.gov.bd)) has prepared a project "Electronic Governance in Bangladesh : Development of Government Administration Information System" for establishing e-Governance system in 38 Ministries and Divisions. Major activities under this project are:

- (a) Each Ministry will be provided with server, PCs, Gateway, Laser printer Scanner and other accessories.

- (b) Each ministry will be provided with broadband internet connectivity. A central pool of ICT Professionals will be created including system Manager, System Analyst, Programmer, web-page designer/master, hardware engineer , network engineer.
- (c) Initially, a LAN will be established in each ministry. In addition, all administrative activities of the ministry such as payroll, inventory will be computerized through databases. All ministries/divisions databases will be linked and shared with adequate protection. Timely update of web-site/databases will be ensured.

#### ***Support to ICT Task Force (SICT) project***

Another 890 million Taka Project entitled "Support to ICT Task Force"([www.sictgov.org](http://www.sictgov.org)) primarily for introducing e-Governance is being implemented by the Planning Commission under the Ministry of Planning. Initially 6 Divisional HQ, PM Office and some key ministries e.g. Health, Home Affairs, Land, Information, Labour, Expatriate Welfare, Foreign Affairs and Planning have been chosen to implement some basic electronic services ( i.e. e-mail, File Tracking, Document Sharing, Internet access) to visualize the part of a whole picture of e-government. The purpose of this project is to establish a communication network, which will be highly efficient, reliable and fully secured.

#### **4. ICT Infrastructure: Telecommunications**

The telecom sector has been liberalized for private investment in early 90s, resulting in appreciable rise in mobile telephone sets in the country. At present the total number of telephone lines is 0.92 million and the number of cellular phones offered by 4 private operators is about 2 million. The teledensity is about 2%. It is targeted to increase teledensity to 3.3 % by 2005 . The following table shows the status as of December 2002:

**Telecommunication status**

Number of Telephones (land-lines)	0.92 Million
Number of Cellular Phones	2 Million
Telephone Density (landline and cellular combined)	2 %
Paging & Radio Trunk Subscribers	7000
Telex Subscribers	1600
International Trunk Exchange	3
Total International Circuits	3700
International Internet Backbone	10 MB
VSAT Provider	31
VSAT user	70
Number of ISPs	195
Fiber optic Cable Network (under Railway)	1800 KM
Satellite Earth Station	4
Internet user	0.1 Million

All analog exchanges at 64 District HQ under Bangladesh Telephone & Telegraph Board (BTTB) have been converted to digital by December 2002. A National Digital Data Network (DDN) has been implemented by BTTB, which will integrate the whole country under a single digital network for voice and data communications. All Upa-Zillas (Sub District) analog telephone exchanges will come under digital exchange within December 2005.

As per the National Telecom Policy, 1998, the telecom sector (fixed line, mobile and the internet) is liberalized for private investment. Following the nation Telecom. Policy, the Bangladesh Telecom Act 2001 was enacted. In order to separate the commercial operations of BTTB from its regulatory functions in phases, a separate Bangladesh Telecommunication Regulatory Commission (BTRC) has been established in January 2002. Voice over Internet Protocol (VOIP) has been opened to private sector operator. VSAT license/connection fees and overseas/long distance call charges have been substantially reduced.

### ***Fiber-optic Submarine Cable***

1800 KM long optic fiber network under Bangladesh Railway is being utilized by the private Cellular Phone Operator. Fiber optic links have already been established in most cities of the country (50 out of 64 districts) areas by Bangladesh Telegraph and Telephone Board (BTTB). BTTB has taken up a project to connect Bangladesh with the Information Superhighway through submarine fiber-optic cable project SEA-WE-MEA4 with a landing site at Cox's Bazar. The facility is to be operational by June 2005. Based on this it is expected that the nationwide Internet backbone will be established.

### ***Internet Access***

The number of computers in the country is about 0.5 million with about 0.1 million Internet users. Due to de-regulation of Very Small Aperture Terminal (VSAT) policy by the government in February 2000, the number of ISPs has grown to 195 with individual bandwidth ranging from 64 kbps to 2 Mbps, offering Broadband Internet services through DSL/HDSL modems. All 64 districts and 35% of upazillas of Bangladesh has been brought under Internet coverage by BTTB through dial-up connections.

## **5. Bangladesh Software Industry**

Bangladesh has a large unutilized and unemployed youth force. We can take advantage of this immense manpower by providing them appropriate education and training in ICT, particularly in software and ICT related services. It should be emphasized at this point that a vibrant and quality local software industry is a prerequisite for deriving any substantial success in software export. For this, the use and application of ICT for local market, especially e-governance, has to be promoted. As a fiscal measure to achieve this, the government has exempted the Custom duties and VAT on computer hardware, software and accessories. At present, some 83 firms in this sector are developing software and exporting software products from Bangladesh.

- There is a good opportunity for local ICT companies to enter into joint venture agreements with foreign companies. To promote software export a ICT Business Promotion Council has been set up under the Ministry of Commerce and a Business Promotion Office has been set up by Export Promotion Bureau at Silicon Valley, USA.

## **6. ICT Incubation Centre**

In order to encourage startup companies in software/ITES development and export, the government has set up an ICT Incubation Centre at a rented space of 68,000 sq. ft. in the heart of Dhaka City. At present, about 48 IT/software related companies have set up operations in this facility. The facility has been provided with 24-hour power supply and internet gateway facility from the Development of Infrastructure for IT Applications Project of BCC. ICT service industry which have bright prospect in Bangladesh includes data entry/data transcription services (voice, video), cyber-cafe, cyber kiosks, public call-centre (PCOs), telemedicine, electronic-mail centers, web-site design and maintenance, e-commerce and other web-based applications, electronic-journalism, Tele-banking, e-banking, etc.

## **7. Hi-Tech Park**

A High Tech Park with all modern infra-structural facilities is being planned at Kaliakoir near Dhaka with an area of 231.685 acres of land at a cost of 2,522.5 million Taka (43.5 million USD), which will house software and ICT-enabled service industries, electronics and PCB related equipment and products, telecommunications, hardware assembly/component/VLSI design (possibly manufacture also), optoelectronic equipment, bio-technology and related linkage industries, including a hi-tech University to provide technical support and for conducting R&D at the park facilities.

## **8. ICT Education/Training**

Computer courses are taught in the secondary and higher secondary school level as optional subjects and it is declared by the Prime Minister to be made compulsory from 2005 in WISIS 2003 in Geneva. At present there are 13275 Secondary, 1558 Higher Secondary, 3287 Junior Schools and 5626 Secondary, 1105 Higher Secondary Madrasas in Bangladesh. All schools and madrasas are to be brought under computer courses. Towards this end, Bangladesh Computer Council has taken steps to distribute computers and accessories to secondary schools, including training of teachers of these schools under the project "Assistance to Secondary Schools for Introducing Computer Courses".

- At the present time 21 public universities, 52 private universities, 31 colleges under the National University and a number of foreign affiliated universities/institutes are offering computer science courses, producing about 5000 computer science graduates per year.
- In order to introduce computer courses in all secondary schools, a large number of computer teachers/instructor will be needed. To address the problem of shortage of IT instructors a program/project has been taken by the Government to conduct 1-year Post Graduate Diploma in Computer in 7 public universities.
- Under the project "Conducting Standard Training Course at Divisional Headquarters", Bangladesh Computer Council has set up ICT training centers at all the six Divisional Headquarters. A plan is under consideration to extend this facility to the 15 remaining Greater Districts of the country.

- The government is actively considering the implementation of a project " Computer, Training & Internet Facilities for Rural Secondary & Higher Secondary Institutions in Bangladesh under which 10,000 (Ten thousand) selected institutions will be provided Computer set (2 x Computer, 1 x Printer, 1 x UPS, 1 x Voltage Stabilizer along with Software & other accessories), a Telephone and Internet connection facility.

## **9. National ICT Internship Programme**

In the recent time there is a large increase in the demand of skilled ICT professionals in Bangladesh as well as in the developed countries of the world. In the light of this, the Government has taken various steps for Human Resource Development in the ICT sector. As a part of it, the government, vis-à-vis the Ministry of Science and Information & Communication Technology, in cooperation with the public/private sector, has taken program to produce quality professionals and skilled manpower in ICT to ensure the success of the software and IT Enabled Services (ITES) industries. National ICT Task Force decided to introduce ICT Internship Award Programme in the country. Under this program, graduates/fresh graduates/post graduates in ICT subjects will be imparted training for 6-months as internees in different IT organizations/companies for acquiring practical experience and hands on training. The objective of the program is to impart basic training for skill development in ICT after completion of institutional education at the graduate/post Graduate levels, to increase employment opportunities and for the development of large number of programmers for the local software industries and export.

## **10. Conclusion**

We live in an asymmetric world marked by wealth and poverty. The digital divide has widened the development gap. However, we have now devised a technology that can overcome these differences and lead to a global society with minimum poverty and maximum equity. Bangladesh must, indeed, resolutely commit itself to build the Information Society and implement her Plan of Action.